



BILLING CODE 3510-DS-P

DEPARTMENT OF COMMERCE

International Trade Administration

Application(s) for Duty-Free Entry of Scientific Instruments

Pursuant to Section 6(c) of the Educational, Scientific and Cultural Materials Importation Act of 1966 (Pub. L. 89-651, as amended by Pub. L. 106-36; 80 Stat. 897; 15 CFR part 301), we invite comments on the question of whether instruments of equivalent scientific value, for the purposes for which the instruments shown below are intended to be used, are being manufactured in the United States.

Comments must comply with 15 CFR 301.5(a)(3) and (4) of the regulations and be postmarked on or before [Insert date 20 days after date of publication in the FEDERAL REGISTER]. Address written comments to Statutory Import Programs Staff, Room 3720, U.S. Department of Commerce, Washington, D.C. 20230. Applications may be examined between 8:30 A.M. and 5:00 P.M. at the U.S. Department of Commerce in Room 3720.

Docket Number: 14-024. Applicant: University of Maryland Baltimore County, 1000 Hilltop Circle, Baltimore, MD 21250. Instrument: Electron Microscope. Manufacturer: FEI Company,

Czech Republic. Intended Use: The instrument will be used to understand preparation – structure – property relationships of many different materials including nanocomposite powders and coatings, tooth enamel and its interaction with dental materials, and gold nanoparticles with and without functional groups. Justification for Duty-Free Entry: There are no instruments of the same general category manufactured in the United States. Application accepted by Commissioner of Customs: February 12, 2015.

Docket Number: 14-030. Applicant: W.M. Keck Observatory, 65-1120 Mamalahoa Hwy., Kamuela, HI 96743. Instrument: Next Generation Adaptive Optics (NGAO) Laser System. Manufacturer: Toptica Photonics AG, Germany. Intended Use: The instrument will be used to provide a high quality “artificial star” in the atmosphere to remove the image blurring caused by the atmosphere, as part of a Laser Guide Star Adaptive Optics System. The system uses a technique called Adaptive Optics that measures the turbulence in Earth’s atmosphere that causes blurring or “twinkling” by “flexing” or “bending” a deformable mirror at speeds of hundreds of times per second. The instrument is used to excite sodium atoms residing in the mesosphere above the Earth’s surface creating an “artificial star” for measuring the atmosphere’s turbulence. The instrument uses a laser of a precise wavelength of 589nm projected onto the sodium layer at 90km in the atmosphere, for which the stability, format and bandwidth are critical. The wavelength, amount of power, and spectral content required to resonant atoms 90km in the atmosphere are not commonly used in the laser industry. Justification for Duty-Free Entry: There are no instruments of the same general category

manufactured in the United States. Application accepted by Commissioner of Customs: February 5, 2015.

Docket Number: 14-035. Applicant: Texas A&M University, 200 Seawolf Parkway, Galveston, TX 77553. Instrument: Wartsila, W8L20 Generator set and related special purpose tools.

Manufacturer: Wartsila Ship Power, Finland. Intended Use: The instrument will be used to prepare students to serve as licensed engineering officers in the US Merchant Service and for other careers in demand in the Houston job market and elsewhere. Any generator set that would be useful for our instructional needs would need to be typical of the marine industry, be relatively large so students could have realistic laboratory experiences, and would need to not be excessively large so it would fit into the existing indoor high bay intended for this purpose.

Justification for Duty-Free Entry: Marine Diesel engines of different design but in the same general category to that being donated are available in the US, but no detailed comparisons between competing equipment have been made because no domestically produced engine was offered as a donation. Application accepted by Commissioner of Customs: January 15, 2015.

Docket Number: 15-002. Applicant: Rhode Island Hospital (Lifespan Corporation), 593 Eddy Street, Providence, RI 02903. Instrument: Laser Scanning Microscope. Manufacturer: FEI Company / TILL Photonics, Germany. Intended Use: The instrument will be used to study the molecular mechanisms of adhesion receptor activation in leukocytes (white blood cells), and

how these processes are different under certain disease states, such as in patients with septic shock. By tagging specific proteins / genes with fluorescent markers the instrument will be used to track their location at a subcellular scale and determine how they are involved in regulating the activation of adhesion receptors. The instrument is capable of Total Internal Reflection Fluorescence Imaging, which is a specialized type of microscopy where it is possible to restrict observations to a very thin section of the cell where the adhesion receptors are concentrated. The instrument has a unique integrated laser scanning mechanism that allows for the laser beam position to be scanned around the perimeter of the objective plane, which gives a superior illumination uniformity compared to the instruments from domestic manufacturers. These features are critical since the experiments rely on comparing the brightness of fluorescence signal in one part of a cell to other parts of the cell in order to draw conclusions about how these proteins are activating adhesion receptors. Justification for Duty-Free Entry: There are no instruments of the same general category manufactured in the United States. Application accepted by Commissioner of Customs: January 13, 2015.

Docket Number: 15-003. Applicant: University of California Santa Barbara, Santa Barbara, CA 93106-6105. Instrument: Cryo Positioning Stage High Resonance. Manufacturer: Janssen Precision Engineering, the Netherlands. Intended Use: The instrument will be used to construct a variable temperature (4-300 Kelvin) scanning probe microscope with sub-nanometer stability, optical access and microwave integration to measure nitrogen vacancy probes. There is no domestic instrument that combines six degrees of freedom of linear

motion in a tool that operates at cryogenic temperatures (<4 Kelvin) and has a resonant frequency larger than 1 kHz. Justification for Duty-Free Entry: There are no instruments of the same general category manufactured in the United States. Application accepted by Commissioner of Customs: February 5, 2015.

Docket Number: 15-004. Applicant: Drexel University, 3141 Chestnut Street, Philadelphia, PA 19104. Instrument: Electron Microscope. Manufacturer: JEOL Ltd., Japan. Intended Use: The instrument will be used to obtain structural and morphological information about materials such as metal alloys, polymers and ceramics using electron diffraction and bright field and dark field imaging. Composition of the materials will be studied using energy dispersive spectroscopy. These techniques will be used in static experiments as well as on materials that are subject to external stimuli. Justification for Duty-Free Entry: There are no instruments of the same general category manufactured in the United States. Application accepted by Commissioner of Customs: January 26, 2015.

Docket Number: 15-006. Applicant: Colorado School of Mines, 1500 Illinois St., Golden, CO 80401. Instrument: Electron Microscope. Manufacturer: FEI Company, Czech Republic. Intended Use: The instrument will be used to elucidate structure-property relationships in a wide variety of materials including metals, ceramics, and semiconductors. Justification for Duty-Free Entry: There are no instruments of the same general category manufactured in the United States. Application accepted by Commissioner of Customs: February 10, 2015.

Docket Number: 15-008. Applicant: St. Jude Children's Research Hospital, 262 Danny Thomas Place, Memphis, TN 38105. Instrument: Electron Microscope. Manufacturer: FEI Company, Czech Republic. Intended Use: The instrument will be used to study the best course of treatment and prevention of reoccurrence of pediatric cancers, by studying cell and tissue cultures as well as human tumor tissue. Justification for Duty-Free Entry: There are no instruments of the same general category manufactured in the United States. Application accepted by Commissioner of Customs: February 20, 2015.

Docket Number: 15-009. Applicant: University of Texas Health Science Center, 7703 Floyd Curl Drive, San Antonio, TX 78229. Instrument: Electron Microscope. Manufacturer: JEOL Ltd., Japan. Intended Use: The instrument will be used to document the light and ultrastructural change that occurs in the liver and adipose tissues from various sites under conditions of stress using mice with a targeted deletion of Tmem127. Electron microscopy will be used to document the size and effect of different conditions on lysosomal structure and distribution. Justification for Duty-Free Entry: There are no instruments of the same general category manufactured in the United States. Application accepted by Commissioner of Customs: May 8, 2015.

Docket Number: 15-013. Applicant: Washington State University, 220 French Administration Building, PO Box 641020, Pullman, WA 99164-1020. Instrument: CTK Reactor, High Pressure

Reactor, Diff pump mass spectrometer. Manufacturer: OmniVac, Germany. Intended Use: The instrument will be used to take measurements during an ongoing catalytic reaction, i.e. under 'operando' reaction conditions so as to clarify mechanistic details during studies up to 100 bar so as to ensure optimal conditions for the production of fuels and other chemical feedstock such as detergents or lubricants. Such dynamic reaction studies will help elucidate the mechanisms of catalytic reactions such as the formation of transportation fuels from 'synthesis gas' (Fischer Tropsch synthesis). While CTK informs about the early run-in period in a time-resolved manner, the high pressure reactor allows the study of steady-state reaction behavior at a bench scale for many hours. The Quantachrome system allows measurements of the specific surfaces areas of materials, which is required for the optimization of catalysts. The CTK reactor comprises a gas cleaning and dosing system, along with gas inlets using mass flow controllers. The central part of the reactor is made of quartz, and temperatures can be varied at choice. The high pressure reactor comprises gas cleaning and inlet pressure up to 100 bar, surrounded by a temperature programmed oven which allows temperatures of up to 500 Celsius. The differential mass spectrometer serves to continuously control gas phase compositions and is equipped with a high-speed turbo molecular pump and rotary forevacuum pump. Sampling occurs with calibrated capillary at pressures controlled by ion gauges. The Quantachrome system allows specific surface areas to be determined using non-selective probe molecule adsorption at cryogenic temperatures. Justification for Duty-Free Entry: There are no instruments of the same general category manufactured in the United States. Application accepted by Commissioner of Customs: May 8, 2015.

Docket Number: 15-020. Applicant: The City University of New York, 205 East 42nd Street, Room 11-64, New York, NY 10017. Instrument: Electron Microscope. Manufacturer: FEI Company, Japan. Intended Use: The instrument will be used to understand the structural mechanism by which macromolecular complexes, organelles and cells carry out their actions, using single particle analysis and tomography, involving taking many images of biological materials in vitrified ice. Justification for Duty-Free Entry: There are no instruments of the same general category manufactured in the United States. Application accepted by Commissioner of Customs: May 8, 2015.

Gregory W. Campbell

Director of Subsidies Enforcement

Enforcement and Compliance

Dated: May 28, 2015.

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